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UREDINEÆ

EXSICCATÆ ET ICONES

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BY
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AND
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FASCICLE IV

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PREFACE TO FASCICLE IV.

This series of dried specimens of American *Uredineæ* is issued in fascicles of unequal size. The first fascicle was issued in September, 1894, and contained seventeen species (Nos. 1 to 17), represented by thirty-one packets, and accompanied by photo-engraved drawings of the spores. The second fascicle was issued in December, 1898, and contained seventeen species (Nos. 18 to 34), represented by fifty-five packets (erroneously stated in the perface of fascicle II to be fifty-two), and accompanied both by photographs and by photo-engraved drawings. The third fascicle was issued in June, 1901, and contained ten species (Nos. 35 to 44), represented by twenty-eight packets, with photographs and photo-engraved drawings. The present fascicle contains sixteen species (Nos. 45 to 60), represented by forty-nine packets, with photo-engraved drawings and heliotype reproductions from photographs.

The drawings are all made directly from the material of the distribution, every packet being illustrated. They are numbered to correspond with the packets, and arranged on the plate so that they may be cut apart readily and mounted with the specimens on the herbarium sheet, if desired. All drawings are made with an Abbe camera lucida, under a uniform magnification of 625 diameters, and reduced to 470 diameters in engraving.

Thirteen photographs accompanied fascicle two, two of which were of twigs and leaves bearing æcidia, shown natural size, and the remainder were of spores. In the third fascicle were thirteen photographs, all of spores. The present fascicle contains twenty-three photographic reproductions of spores and one of æcidia, the latter magnified 12 diameters. The photographs are made directly from the material of the distribution and the reproductions are facsimiles without change of size. The spores are magnified 250 diameters.

The essentially correct dimensions of the spores may be obtained by taking measurements in millimeters from the drawings and multiplying by two, or from the photographs or their reproductions and multiplying by four, the results being in microns (μ).

The first fascicle was devoted exclusively to *Lepto-Uredineæ*; the second, third and present fascicles contain species having their uredospores and teleutospores on hosts belonging to the *Gramineæ*; and the fascicle to follow will be of the same character. The hosts of the eight collections made in Mexico were determined by Mr. F. L. Scribner, agrostologist in the U. S. Department of Agriculture. Britton's *Manual* has been followed in the nomenclature of hosts for this fascicle.

The attempt is made to have the fascicles approximately uniform in value, but this is not done by including a fixed number of packets, as is customary, but by looking after the quality, rarity and desirability of the forms, by providing examples for comparison of the different stages and hosts in the same species, and by illustrations. In order to carry out this intention to the fullest extent possible, it is sometimes necessary to include packets scantily supplied with material, or in which the material was not collected at its best. But all such deviations from a high standard of quality are to be accepted as concessions to the necessity for providing the amplest material for study, and such as we offer is the best that could be secured.

Signs are used on the packets and elsewhere to indicate the kind of spores represented in the particular gathering, and their comparative abundance. The signs are as follows;

O, Spermatia.
I, Æcidiospores.
II, Uredospores.
III, Teleutospores.
X, Amphispores.

When printed in large type, they show that the spores occur abundantly in well formed sori; when printed in small type, thus, o, i, ii, iii, x, the spores form few sori or are scattered among the sori of other sorts of spores.

The fascicle has been enriched by contributions from Miss Lillian Snyder and Messrs. Elam Bartholomew, Wm. Stuart, J. M. Bates, J. J. Davis, L. R. Jones, H. L. Bolley, H. H. Hume and W. H. Long, Jr., to whom the editors extend thanks. One important collection was also received from F. W. Anderson, since deceased.

Descriptions of every species in the series, and a running commentary have been provided in an independent publication, entitled "Descriptions of American Uredineæ," printed in the *Bulletin of the Laboratories of Natural History of Iowa University.* Separates have been distributed and additional copies may be purchased from the writers. The "Descriptions" for the species of the first fascicle are in volume III, pages 44 to 75, those of the second fascicle in volume IV, pages 377 to 405, those of the third fascicle in volume V, pages 171 to 193, and those of the present fascicle in volume V, pages 311 to 334.

The edition of this fascicle is limited to fifty copies, which are issued either in loose packets or in well bound octavo volumes, as subscribers may prefer.

THE EDITORS.

CONTENTS OF FASCICLE IV.

An asterisk before the number indicates that the specimen is accompanied by a reproduction from a photograph.

GRAMINEOUS TRIBE AGROSTIDEÆ.

*45a.	**Uromyces Aristidæ** E. & E.,	III, on	*Aristida basiramea*,	Neb.
45b.	" "	III, on	" *oligantha*,	Texas.
*46a.	**Puccinia aristidicola** Henn.	III, on	" *fasciculata*,	Mex.
46b.	" "	III, on	" "	"
*47a.	**Uromyces Epicampus** D. & H.,	III, on	*Epicampes macroura*,	"
*48a.	" **minimus** Davis,	III, on	*Muhlenbergia sylvatica*,	Wis.
*49a.	**Puccinia dochmia** B. & C.,	III, on	" *ciliata*,	Mex.
49b.	" "	III, on	*Perieilema crinitum*,	"
50a.	" **Muhlenbergiæ** A. & H.	II, iii, on	*Muhlenbergia diffusa*,	Ind.
*50b.	" "	III, on	" *Mexicana*,	Iowa.
50c.	" "	III, on	" "	Kans.
50d.	" "	III, on	" *racemosa*,	Neb.
50e.	" "	III, on	" "	Kans.
*51a.	" **amphigena** Diet.,	III, on	*Calamovilfa longifolia*,	Ill.
51b.	" "	III, on	" "	"
51c.	" "	III, on	" "	Neb.

GRAMINEOUS TRIBE CHLORIDEÆ.

*52a.	**Uromyces acuminatus** Arth.,	II, iii, on	*Spartina cynosuroides*,	Iowa.
52b.	" "	III, on	" "	"
52c.	" "	III, on	" "	"
*52d.	" "	III, on	" "	N. D.
*53a.	**Puccinia Seymouriana** Arth.,	ii, III, on	" "	Wis.
53b.	" "	III, on	" "	"
54a.	" **Fraxinata** (Lk.) Arth..	0, I, on	*Fraxinus lanceolata*,	Kans.
54b.	" "	I, on	" "	Iowa.
54c.	" "	I, on	" "	Vt.
54d.	" "	0, I, on	" *Pennsylvanica*,	Neb.
**54e.	" "	I, on	" "	Vt.
54f.	" "	II, on	*Spartina cynosuroides*,	"
*54g.	" "	II, iii, on	" "	Iowa.
54h.	" "	ii, III, on	" "	Kans.
54i.	" "	III, on	" "	"
*54j.	" "	III, on	" "	Iowa.
54k.	" "	III, on	" "	"
**55a.	" **Distichlidis** E. & E.,	III, on	" *gracilis*,	Mont.
56a.	" **Chloridis** Speg.,	ii, III, on	*Chloris elegans*,	Mex.
*56b.	" "	III, on	" "	"

*57a.	**Puccinia**	**Schedonnardi** K. & S.,	III, on *Schedonnardus paniculatus*,	Kans
57b.	"	"	III, on " "	Neb.
58a.	"	**vexans** Farl.,	II, iii, on *Atheropogon curtipendulus*,	Ind.
58b.	"	"	X, iii, on " "	Neb.
**58c.	"	"	X, ii, on " "	N. M.
58d.	"	"	x, III, on " "	Ind.
*58e.	"	"	III, on " "	Iowa.
59a.	"	**Bartholomæi** Diet.,	II, III, on *Bouteloua oligostachya*,	Kan's
59b.	"	"	III, on " "	Neb.
59c.	"	"	III, on " *hirsuta*	"
*59d,	"	"	III, on *Atheropogon curtipendulus*,	Texas,
*59e.	"	"	ii, III, on *Leptochloa dubia*,	Mex.
*60a.	"	**Kansensis** E. & B.,	ii, III, on *Bulbilis dactyloides*,	Kans.